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Office of Engineering and
Construction Management*

CostWorks Sustainment Calculator Portfolio Module

November 29, 2007



Sustainment Calculator Portfolio Module

- Sustainment Calculator Background
- Portfolio - Overview
- Portfolio – Assumptions
- Portfolio – Methodology
- Portfolio – Screen Shots
- Portfolio - Reports
- Portfolio – Issues
- Portfolio - Graded Approach
- Portfolio – Timeline
- Sustainment Worksheet Additions
- Prioritization of Enhancements



Sustainment Calculator Background

- DOE RPAM Order requires development of 10 Year Site Plans to include maintenance cost projections
- Initial interest came from NNSA sites (LLNL, NTS) to add sustainment to CostWorks
- Shows assemblies, individual tasks and total cost by year
- Customizable to replicate existing asset
 - Task frequency and cost can be modified
 - Age of building or building components can be modified
- Calculates sustainment from 1 to 100 years (default is 10 years)
- Best used to estimate sustainment for mission critical facilities



Sustainment Calculator Portfolio Module Overview

- Estimate inventory quickly and easily
- Estimate site inventory using FIMS data & batch loading
- FIMS Export to CW.
 - Site Number, Area Number, Property ID
 - Bldg. Site Factor, Year Built, RPV Model
 - Status or Mission Dependency
 - Generates two standards reports
 - Sustainment Cost by year.
 - Sustainment Breakdown costs





Sustainment Calculator Portfolio Module Assumptions

- RPV model in FIMS provides all assembly information.
- No customization of model assemblies are necessary.
- Sustainment cost factors for PM, M&R are not customizable.
- Replacement cost factor is the building site factor
- Default period is 10 years
- Inflation rates are not customizable. (Labor – 2.8% and Material 5%)
- Geographic cost set by user on CW Settings screen.
- Graded approach based on FIMS Status field or Mission Dependency field.



Sustainment Calculator Portfolio Module Methodology

- Relies on 7 FIMS data fields exported to CW
- CostWorks RPV model number and asset information
- Status or Mission Dependency governs graded approach implementation.
- Uses Year Built, PM and M&R cost factors and FIMS building site factor to reflect site cost conditions.
- $\text{Sustainment} = \text{PM} + \text{M\&R} + \text{Replacement cost.}$



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Sustainment Portfolio Module

CostWorks 2007 DOE Version 3.0 - High Bay Facility

File Edit Select View Navigate Tools Help

Owners Name...
Open Release Update...
Open Titles...
Order New Titles...
Open Project...
Exit

Works® **Settings**
Version 11.1

Dennis McDermitt, DOe
2007 DOE Cost Data

Data updates for CostWorks may be available.
Please use our Internet Connection to check for the latest information.

Open Titles
MasterFormat
Location
Wage Rate
Project Name
Project Notes

Assemblies, Building Construction, Concrete & Masonry, Electrical, Heavy Construction, Interior, Mechanical, Plumbing, Site Work & Landscape, Square Foot
MasterFormat™ 2004
US National Average Costs
Union
High Bay Facility
This area is for any project notes...

CostWorks Tips
Using the Copy button under Select Project, allows you to make a copy of one project and then adjust the copy to create a new project without starting from scratch

Click Here for Help
Click Here To Order New Products and Features

Settings | Estimator | Unit Costs | Assembly Costs | Project Costs | Square Foot Models | Residential Models

RSMeans
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DOE Site Report (FIMS - OSF)
Connect to RSMeans on the Internet

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Sustainment Calculator Summary Table

Microsoft Excel - E15, Small Office PID KB01 TYSP_Sustmt Sum.xls

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	A	C	D	E	F	G	H	I	J	K					
1		Sustainment Model - E15													
2		Source:	CostWorks 2007 DOE Version 3.0 - E15, Small Office												
3		Site Number:	03001	Area Number:	006	Property Id:	KB01								
4		Model:	E15												
5		Year Built:	1987	Stories:	3										
6		Start Year:	2007	Story Height:	12										
7		RPV:	\$5,000,000	GSF:	35,000										
8		Labor Inflation	2.800%	Replacement Inflation	5.000%										
9		Preventive Sustainment Factor	1.030	M&R Sustainment Factor	1.320	Replacement Sustainment Factor	1.568								
10															
11			CURRENT YEAR COSTS					INDEXED COSTS							
12		Time Period	Maintenance & Replacement Costs			Sustainment	Sustainment	Maintenance & Replacement Costs			Sus				
13		Count	Year	Preventive	M&R	Replacement	Costs	Ratio	Preventive	M&R	Replacement				
14					2007	Dollars			Inflation	2.800%	5.000%				
15	1	2007	\$	13,591	\$	306,782	\$	337,548	\$	13,591	\$	306,782	\$	337,548	\$
16	2	2008	\$	13,591	\$	2,624	\$	16,215	\$	13,972	\$	2,697	\$		\$
17	3	2009	\$	13,591	\$	2,647	\$	16,238	\$	14,363	\$	2,797	\$		\$
18	4	2010	\$	13,591	\$	2,230	\$	15,822	\$	14,765	\$	2,423	\$		\$
19	5	2011	\$	13,591	\$	49,406	\$	173,860	\$	15,178	\$	55,176	\$	211,328	\$
20	6	2012	\$	13,591	\$	171,146	\$	1,895	\$	15,603	\$	196,487	\$	2,418	\$
21	7	2013	\$	13,591	\$	2,647	\$	16,238	\$	16,040	\$	3,124	\$		\$
22	8	2014	\$	13,591	\$	3,832	\$	17,423	\$	16,489	\$	4,649	\$		\$
23	9	2015	\$	13,591	\$	93,414	\$	107,005	\$	16,951	\$	116,508	\$		\$
24	10	2016	\$	13,591	\$	2,230	\$	15,822	\$	17,426	\$	2,860	\$		\$
25	11	2017	\$	13,591	\$	238,177	\$	569,807	\$	17,914	\$	313,929	\$	928,156	\$
26	12	2018	\$	13,591	\$	2,230	\$	15,822	\$	18,415	\$	3,022	\$		\$
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Sustainment Portfolio Module Reports- Sustainment Summary

Microsoft Excel - BldgModuleRprt_3.xls

Type a question for help

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Reply with Changes... End Review...

	A	B	C	D	E	F	G	H	I	J	K
1		Report Format									
2		TYSP Projected Sustainment Costs									
3											
4		FY:	2007								
5		Site No:	3001								
6		Area No:	1								
7		Site Factor	1.568								
8											Indexed
9		Property	Model	Year	Age	Status	Mission	1	2	3	
10		ID	No	Built			Dependency	2007	2008	2009	2010
11											
12		2356	E15	1987	20	1	1	\$657,921	\$16,626	\$17,160	\$17,160
13		6325	N24	1980	27	2	3	\$75,847	\$484,469	\$78,560	\$568,730
14		1346	N14	1965	42	6	3	\$102,713	\$46,882	\$96,761	\$169,300
15		564	N02	1975	32	6	3	\$193,736	\$39,370	\$40,790	\$63,980
16							Totals	\$1,030,217	\$587,347	\$233,271	\$819,200
17											
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Sustainment Portfolio Module Reports – Sustainment Brkdwn. Costs

Microsoft Excel - BldgModuleRprt_brkout.xls

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1															
2															
3	Facility Maintenance & Repair Cost Breakdowns														
4															
5	FY: 2007														
6	Site Ilo: 3001														
7	Area Ilo: 1														
8	Site Factor 1.568														
9															
10	Property	RPV	Year	Age	Status	Mission	1 - 2007				2 - 2008				
11	ID	Model	Built			Depdncy	PM	M&R	Replcmnt	Sustnmnt	PM	M&R	Replcmnt	Sustnmnt	PM
12	2356	E15	1987	20	1	1	\$13,591	\$306,782	\$337,548	\$657,921	\$13,972	\$2,697	\$0	\$16,626	\$14,363
13	6325	N24	1980	27	2	3	\$64,714	\$11,134	\$0	\$75,847	\$66,526	\$417,943	\$0	\$484,469	\$68,388
14	1346	N14	1965	42	6	3	\$38,435	\$64,278	\$0	\$102,713	\$39,511	\$7,371	\$0	\$46,882	\$40,617
15	564	N02	1975	32	6	3	\$32,221	\$37,339	\$124,186	\$193,736	\$33,113	\$6,257	\$0	\$39,370	\$34,041
16	TOTALS						\$148,961	\$419,533	\$461,734	\$1,030,217	\$153,122	\$434,268	\$0	\$587,347	\$157,409
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Sustainment Portfolio Module RPV Model Field Issues

- RPV Model field not 100% populated in FIMS
 - Can't run batch without model link
 - RPV Model field 85% populated in FIMS
 - OECM issue population requirements?



Sustainment Portfolio Module Graded Approach Issues

- Need feedback on graded approach implementation
 - Is the FIMS Status or Mission Dependency fields or both govern the graded approach implementation?
 - What FM&R costs are associated with each FIMS Status selection?
 - Rules will be developed for CW to select appropriate FM&R costs.
 - Rules may include Sustainment costs or individual PM, M&R & Replacement costs only.
- i.e. **Shutdown** (3) – Estimate only Roof, Fire protection and fire alarm related FM&R costs (PM, M&R, Replacement).

Handouts



Sustainment Portfolio Module Development Timeline

- When is Module needed?
 - For Ten Year Site Plans
 - For Maintenance Calls (Required maintenance call)
- How about March 2008 for first release?



Sustainment Calculator Model Worksheet Additions

Microsoft Excel - E15, Small Office PID KB01 TYSP_Sustmt Brkdown.xls

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	TYSP Sustainment Breakdown Costs																
4	FY:	2007			Inflation:												
5	Site No:	03001			Labor	3.50%											
6	Area No:	006			Replcmt	5.00%											
7	Site Factor:	1.568															
9	Property	Model	Year	Age	Status	Mission	2007				2008				2009		
10	Id	No.	Built		Dependency		PM	M&R	Replcmt	Sustnmnt	PM	M&R	Replcmt	Sustnmnt	PM	M&R	Replcmt
11																	
12	KB01	E15	1987	20	1	1	\$13,591	\$306,782	\$337,548	\$657,921	\$14,067	\$2,716	\$0	\$16,782	\$14,559	\$2,835	\$
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Enhancement Prioritization

- EES Proposed CostWorks Enhancements
 - See Handout



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